

IN THE SPECIFICATION

The following is a marked up version of a replacement Abstract in which underlines indicates insertions and strikethrough indicates deletions.

~~The present invention relates to a~~An apparatus and method for heating a sample, such as chemical reaction mixtures are disclosed. ~~The apparatus may include at least a, whose dielectric properties varies during the heating process. In particular, the present invention relates to a microwave heating apparatus comprising a~~ microwave generator, a waveguide for guiding the generated microwaves to an applicator, and a deflector formed by a closed loop defining a plane; ~~said. The deflector having~~may have an inherent resonance frequency and a thickness in a direction normal to ~~said the plane,~~; ~~the deflector being~~may be rotatable around an axis being at least substantially parallel to ~~said the plane, the deflector being~~and positioned in the waveguide so as to form a resonant cavity with the sample and the waveguide applicator. The resonance conditions of the resonant cavity and the coupling factor of radiation from the waveguide to the cavity ~~are~~may be easily adjustable by ~~rotation of~~rotating the deflector. The resonance conditions and the coupling factor ~~can~~may be adjusted in response to the dielectric properties of the sample in order to optimize the amount of absorbed power and thereby obtain control of the sample heating process.